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ABSTRACT

The New York City Board of Education has instituted magnet educational programs in five city high schools offering special curricula not ordinarily available to secondary school students in their zoned high schools. Magnet courses were designed to assist high schools in their desegregation efforts and to reduce minority group isolation. The magnet programs were centered around themes: oceanogreaphy; practical nursing and premedical training; discovery and development (for underachieving, inner city students headed for college); communication arts; and medicine and the natural sciences. An evaluation of the five schools found that, in general, the program succeeded in encouraging students to engage in cooperative social interactions. The attendance data for the program participants indicated that attendance was generally high for the magnet school students although, as in the general school population, the attendance rate did decrease slightly over the course of the school year. The frequency of suspensions was low for students in the magnet programs. Finally, the achievement scores for participating students in reading and math did not meet the program objectives at any of the schools; this suggests that perhaps these measures were not appropriate for the assessment of program goals. (KH)

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MAGNET SCHOOL PROGRAM
1984-1985
FINAL REPORT

OEA Evaluation Report

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Evaluation Section Report
Robert Tobias, Administrator
John E. Schoener, Senior Manager

MAGNET SCHOOL PROGRAM
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Prepared By The
High School Evaluation Unit:

Dolores M. Mei
Evaluation Manager

Frank J. Guerrero
Evaluation Specialist

Warren Cohen
Evaluation Consultant

New York City Public Schools
Office of Educational Assessment
Richard Guttenberg, Director

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PROGRAM BACKGROUND

The New York City Board of Education has instituted magnet educational programs in five city high schools offering special curricula not ordinarily available to secondary school students in their zoned high schools. These educational programs were designed to attract students of different racial and ethnic backgrounds to study together on the basis of shared interests and to encourage the development of cooperative intergroup relationships. Magnet courses were designed to assist high schools in their desegregation efforts and to reduce minority group isolation. The names of participating high schools and their magnet programs are: Beach Channel (Oceanography Institute); Hillcrest (Practical Nursing and Premedical Program); Jamaica (College Discovery and Development Program); Edward R. Murrow (Communication Arts); and Midwood (Medical Science Institute).

Program Objectives

There were three objectives for the magnet schools program:

- Increased student motivation will result in a significant increase in the attendance of students participating in target magnet courses.
- Increased student interaction will result in a significant decrease in the number of human relations violations in participating high schools during the program period.
- Increased student motivation will result in an increase in reading and math achievement among eighty-five percent of students participating in targeted magnet courses.

To assess these objectives, the Office of Educational Assessment/High School Evaluation Unit (O.E.A./H.S.E.U.) compared:

- Attendance data from October, 1984 and May, 1985 for targeted magnet program students and a comparison group of the entire school.
- The number of principals' and superintendents' suspensions among targeted students for October, 1984 and May, 1985.

- Participants' standardized scores on the New York City reading and mathematics tests taken in October, 1984 and May, 1985.

SCOPE OF THIS REPORT

This report contains a brief description of each of the magnet programs followed by student outcomes related to attendance, the number of principals' and superintendents' suspensions, and reading and math achievement. The report includes a section on conclusions and recommendations.

PROGRAM DESCRIPTIONS

Beach Channel High School-Oceanography Institute

The Oceanography Institute is open to a limited number of students for a three- or four-year course of study. Marine-related courses include oceanography, meterology, marine biology, navigation, seamanship, nautical astronomy, scuba diving, and, if desired, marine-related business or occupational skills courses. Special facilities at the institute include a launching ramp and pier, marine aquaria, a controlled climate chamber, a photographic darkroom, and a wave tank. In addition to a conventional library facility, Beach Channel has an oceanography library-resource center. The school has also created its own museum containing living and preserved marine plants and animals and oceanographic equipment.

Hillcrest High School-Pre-medical Program

Hillcrest offers a four-year pre-medical program to a limited number of qualified students. The course of study includes a comprehensive secondary school curriculum emphasizing an enriched sequence of subjects, with science and mathematics being the areas of concentration. Students completing the program successfully have substantial preparation for college pre-medical studies. Programs at Queens College and other colleges are coordinated with

the high school experience. The program features clinical experiences in local health facilities, consultation and support from college faculty and medical practitioners, and personal and career specialization advisement.

In addition to the pre-medical program there is a New York State certified two-year practical nursing program leading to state licensing. Nursing faculty are licensed as registered professionals and the program is fully accredited by the Professional Nursing Division in Albany.

Jamaica High School-College Discovery and Development Program

The College Discovery and Development Program (C.D.D.P.) is part of a high school/college consortium between the City University of New York and the New York City Board of Education. The goal of the program is to identify and develop the potential of under-achieving inner-city students by providing them with the education they need to succeed in college. The program provides remedial instruction in reading and math and intensive guidance services. The input from the City University provides supplementary instruction in the areas of science and mathematics, and assistance in career development.

Edward R. Murrow High School-Communication Arts

All students admitted to Edward R. Murrow are offered a college preparatory education in addition to specialized programs in the areas of television, stage design, theatre, engraving, printing, electronics, photography, and computers. Edward R. Murrow is characterized as a magnet experimental school because of features such as four mini-terms rather than a fall and spring term, modular scheduling, a letter grading system, a wide range of elective course offerings, independent study experiences, and optional time built into student schedules. Murrow has several special facilities related to the communication arts program including a television production studio,

theatre, drama studio, electronics communication shop, and graphic arts studio.

Midwood High School-Medical Science Institute

The Medical Science Institute offers a comprehensive program for students interested in studies related to medicine and the natural sciences. Students are exposed to an academic curriculum with concentration in mathematics, the natural sciences, and medically related fields. The Institute includes regularly scheduled science and career seminars involving renowned scientists and practitioners, and opportunities to become active members of research teams at local hospitals and universities. Associated with the Institute is an Advisory Council of leading scholars and community leaders devoted to the advancement of medicine, medical research, and the sciences.

STUDENT OUTCOMES

Attendance

One of the program objectives was to create programs of great interest which would increase student motivation. One measure of this increased motivation was school attendance. Students' interest in the program was expected to grow over the year leading to an increased rate of attendance from October, 1984 to May, 1985. The attendance rate of students enrolled in the magnet program was also expected to be higher than that of the comparison group.

Attendance data are shown in Table 1. Attendance data are presented for students in the magnet programs and for all students in each school. One school, Edward R. Murrow, considered its entire school as its magnet program. The O.E.A./H.S.E.U. obtained attendance data for students in the magnet programs from school administrators. The attendance statistics for the comparison group were obtained from data supplied by the Office of Data

Acquisition, Tabulation, and Analysis (DATA) in the Division of High Schools. The comparison group consists of the 1984-85 attendance of the entire school except in the case of Murrow where 1983-84 data are used for comparative purposes. These statistics exclude long-term absentees (L.T.A.s) which raises a school's attendance rate.

Attendance is generally very high for both the targeted students and the comparison groups. During Ocober, 1984 attendance was higher in the magnet programs than in the comparison groups for four of the five schools. However, the attendance rate for students in the magnet programs decreased from October, 1984 to May, 1985 in four of the five schools, contrary to expectations. However, attendance decreased in three of the five comparison groups as well. Except for Beach Channel, where the attedance rate dropped nearly eight points from October to May, the decrease in attendance among students in magnet programs was minor, averaging less than two points. Such a small decline may be related to the nicer weather that occurs during the spring and students' inclination to take advantage of it.

Suspensions

The frequency of suspensions was quite low for the students in the magnet programs. Midwood and Jamaica reported no suspensions among the target group of students. At Beach Channel there were four suspensions in October, 1984 (one for pushing and threatening a teacher, and three for fighting with a student) and three suspensions in May, 1985 (one for pushing and threatening a teacher and two for fighting with a student.) At Edward R. Murrow there were three suspensions in October, 1984 (two for fighting

Table 1

Comparison Between the Attendance Rates of Targeted and Comparison Groups in Magnet Schools Program During 1984-85 by School[a]

School	Attendance Rate[d] October %	May %	Change
Beach Channel			
Target Group: Oceanography N=423	90.3%	82.6%	-7.7
Comparison Group: Entire School N=1997	85.5	89.7	+4.2
Hillcrest			
Target Group: Pre-medical and Practical Nursing N=441	98.0	97.1	-0.9
Comparison Group: Entire School N=3067	91.6	89.4	-2.2
Jamaica			
Target Group: College Discovery N=285	90.7	91.4	0.7
Comparison Group: Entire School N=2486	88.8	87.8	-1.0
Midwood			
Target Group: Medical Science N=984	95.3	93.9	-1.4
Comparison Group: Entire School N=2285	90.8	91.0	0.2
Edward R. Murrow[b]			
Target Group: Communication Arts (Entire School) N=2848	87.8	86.1	-1.7
Comparison Group[c]: Entire School N=2764 1983-84	89.7	85.6	-4.1
Target Group Combined Average	92.4	90.2	-2.2
Comparison Group Combined Average	89.3	88.7	-0.6

[a] Attendance data excludes long term absentees.

[b] At Edward R. Murrow the entire school was considered to be a magnet program.

[c] Attendance for the 1983-84 school year is used as a comparison since Murrow considered the entire school as its magnet program.

- Overall, target group attendance was higher than that of the comparison groups.
- Although attendance rates were generally high, attendance decreased slightly in four of the target and three of the comparison groups from October, 1984 to May, 1985.

with a student and one for disrupting a classroom.) Edward R. Murrow did not report any data for May. Hillcrest submitted no data at all. Although the program objective of decreasing the number of human relations violations cannot be thoroughly assessed due to imcomplete data, this information suggests that the program did, at least partially, meet its goal. Program administrators reduced the number of suspensions at Beach Channel and maintained their record of no suspensions at Jamaica and Midwood.

Reading and Math Achievement

Students' performance on the city-wide reading and math tests given in October, 1984 and April, 1985 were compared to assess the program's achievement objective. These norm-referenced tests are designed to measure the students' abilities in basic skills areas relative to other students in the same grade throughout the country. Achievement levels in these tests are measured in normal curve equivalent (N.C.E.) units. N.C.E. scores are similar to percentile ranks but, unlike percentile ranks, are based on an equal interval scale. Normal curve equivalent scores are based on a scale ranging from 1 to 99 with a mean of 50 and a standard deviation of approximately 21. Because N.C.E. scores are equally spaced apart, arithmetic and statistical calculations such as averages are meaningful; in addition comparisons of N.C.E. scores may be made across different tests. One of the evaluation objectives in the magnet program states that the achievement scores of 85 percent of targeted students would improve. Thus a student whose posttest score is at a higher N.C.E. than on the pretest has met the evaluation objective of the program.

The test results for students in the five high schools are reported in Table 2. Complete test results were obtained for about 45 percent of students in reading and 44 percent in math. As indicated in Table 2, overall, students' reading scores remained virtually unchanged and math scores increased 3.1 N.C.E. units from the pretest to the posttest. The average reading scores of Beach Channel and Midwood students increased slightly while scores decreased in the remaining three schools. The math scores of students in all schools increased an average of three N.C.E. units with the largest increase (4.9 N.C.E.s) reported at Midwood. Nearly one-half (45.8 percent) of the students showed improvement in reading scores and nearly three-fifths (57.9 percent) posted an increase in math scores from the pretest to the posttest. Nevertheless the program's achievement objective that 85 percent of targeted students illustrate reading and math improvement was not met.

CONCLUSIONS AND RECOMMENDATIONS

The findings of this evaluation suggest that the Magnet Schools Program did encourage students to engage in cooperative social interactions. The low number of human relations violations among the program participants at each of the schools suggests that the magnet programs created the kind of cooperative atmosphere conducive to positive intergroup relations. The attendance data for the program participants indicate that attendance was generally high for the magnet school students although the attendance rate did decrease slightly over the course of the school year, as did attendance in most comparison groups of the entire school. Finally, the achievement scores for participating students in reading and math did not meet the

Table 2

Improvement in Reading and Math Achievement
for Students in Magnet Programs by School

School	Reading Results[a]			Math Results[b]		
	Percentage of Students for Whom Both Pretest and Posttest were Reported	Mean Improvment (In N.C.E. Units)	Percentage Of Students Showing Improvement	Percentage of Students for Whom Both Pretest and Posttest were Reported	Mean Improvement (In N.C.E. Units)	Percentage Of Students Showing Improvement
Beach Channel N=423	54.8%	+1.7	47.0%	53.0%	+4.0	61.2%
Hillcrest N=441	28.0	-2.3	39.0	28.9	+4.3	59.1
Jamaica N=285	45.3	-0.1	46.0	45.3	+3.2	65.9
Midwood N=984	41.4	+1.2	49.1	40.9	+4.9	60.7
E.R. Murrow N=2848	46.5	-0.3	45.2	45.7	+2.3	55.6
Combined Total N=5080	44.5	+0.1	45.8	43.9	+3.1	57.9

[a] Reading achievement among ninth and eleventh grade students was assessed using of the Comprehensive Test of Basic Skills. The California Achievement Test was administered to tenth and twelfth graders.

[b] Math achievement was assessed among all students with the Stanford Test of Academic Skills.

- Two out the five schools showed improvement in mean reading N.C.E. scores from the pretest to posttest.
- All of the schools schools showed improvement in mean math N.C.E. scores from the pretest to posttest.

program objectives at any of the schools, suggesting that perhaps these were not appropriate measures for the assessment of program goals.

Based on the findings of the evaluation the following recommendations are suggested:

- Program administrators should reformulate program objectives to more closely match program goals.
- Program administrators should review the tests used to measure academic achievement to determine whether they are the most appropriate measures of the success of the program.
- Program staff should increase efforts to monitor attendance to maintain high attendance throughout the school year.

SUMMARY

The Magnet Schools Program was designed to assist high schools in their desegregation efforts and reduce minority group isolation. Program administrators intended to encourage positive involvement in school life by students, parents, and community, and promote minority achievement through career oriented, highly motivating courses. The Division of High Schools established magnet programs in five high schools. These programs are aimed at fostering intergroup communication through shared interests and increasing attendance through the attraction and stimulation provided by high quality courses of particular interest to participating pupils.

Program objectives related to increases in achievement and attendance, and decreases in human relations violations in targeted magnet programs. According to the findings of the evaluation, the program's goal of decreasing human relations violations was achieved in three out of the five schools. Objectives for attendance and achievement were not met, although attendance was generally high in the magnet programs.

Based on the findings of the evaluation, the following recommendations are made:

- Program administrators should reformulate program objectives to more closely match program goals.
- Program administrators should review the tests used to measure academic achievement to determine whether they are the most appropriate measures of the success of the program.
- Program staff should increase efforts to monitor attendance to maintain high attendance throughout the school year.